

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

What is claimed is :

1. (withdrawn) A method for manufacturing an aluminum alloy plate having a reduced level of residual stress, said method comprising
 - a) providing a solution heat-treated and quenched aluminum alloy plate having an initial thickness at a predetermined location of at least about 5 inches and having a longest edge and optionally a second longest edge,
 - b) stress relieving said plate by compressing the plate at a total rate from about 0.5 % to about 5 % permanent set along said longest or said second longest edge thereof ,wherein the length of the compressed edge of the plate is no less than twice and no more than eight times said initial thickness.
2. (withdrawn) A method according to claim 1, wherein said plate comprises an alloy of the series 2xxx, 6xxx or 7xxx.
3. (withdrawn) A method according to claim 1, wherein said plate has a thickness of less than 40 inches.
4. (withdrawn) A method according to claim 1, wherein said plate has a thickness between 10 and 30 inches.
5. (withdrawn) A method according to claim 1, wherein prior to solution heat-treating

and quenching said plate has been subjected to rolling and / or forging.

6. (withdrawn) A method according to claim 1, wherein said compressing is performed in up to three steps with at least partial overlap of compressed areas.

7. (withdrawn) A method according to claim 1, wherein said compressing is performed at a temperature of less than 80 °C.

8. (withdrawn) A method according to claim 1, wherein said compressing is performed at a temperature of less than 40 °C.

9. (previously presented) An aluminum alloy wrought plate product having a thickness between about 5 and about 40 inches, wherein said plate has been subjected to a solution heat treatment, and quenching and stress relief by compression at a total rate of 0.5 % to 5 % permanent set, wherein the stored elastic energy W_{Tbar} along the T direction is less than 0.5 kJ/m³.

10. (previously presented) An aluminum alloy wrought product according to claim 9, wherein said product has a length L and a width W such that $L \times W > 1 \text{ m}^2$.

11. (previously presented) An aluminum alloy wrought product according to claim 9, wherein said product has a length L and a width W such that $L \times W > 2 \text{ m}^2$.

12. (previously presented) An aluminum alloy wrought plate of claim 9, wherein the W_{Tbar} is less than 0.3 kJ/m³.

13. (withdrawn) A method for stress relieving an aluminum alloy plate comprising compressing said plate in a predetermined direction, wherein the efficiency of said stress relief in terms of total stored energy W_{tot} is 50% or less after said compressing as compared to a standard short transverse stress-relief.

14. (withdrawn) A method of claim 1, wherein said initial thickness is substantially uniform throughout said plate.
15. (previously presented) An injection mold comprising a plate according to claim 9.
16. (previously presented) An injection mold comprising a plate manufactured according to a method of claim 1.
17. (previously presented) A blow mold comprising a plate according to claim 9.
18. (previously presented) A blow mold comprising a plate manufactured according to a method of claim 1.
19. (previously presented) A machined mechanical workpiece comprising a plate manufactured according to a method of claim 13.
20. (previously presented) A spar suitable for use with an aircraft comprising a plate according to claim 9.